

L0310000000 ~ Cook County
IMPERIAL SMELTING CORPORATION
ILD000000000
HRS/SF

CERCLA

Pre-Cerclis Screening Action

US EPA RECORDS CENTER REGION 5



402786



Illinois Environmental
Protection Agency

Site Recommendation

The author of this report recommends that the Imperial Smelting Corporation site (ILD Pending) not be placed on CERCLIS at this time. The recommendation is a direct result of the Pre-CERCLIS Screening (PCS) Assessment investigation conducted at the property on February 25, 2004. The investigation included observation of the immediate site and surrounding area along with the intent to collect XRF soil samples throughout the Imperial facility. However, as of 1951, the former Imperial Smelting building was incorporated into one large structure encompassing the entire north side of the 4400 block of Fillmore St. through construction of a western addition to the, then, Illinois Paint Co. of Sears Roebuck & Co., Paint Building. The ground around the structure is covered by concrete sidewalk and concrete roadway. No access to the building is available to the public. There is limited potential for contaminants to be present outside of the building where contact may be made by the public or migration into the environment may occur.

PRE-CERLIS SCREENING ASSESSMENT

for:

**IMPERIAL SMELTING CORPORATION
CHICAGO, ILLINOIS**

ILD (PENDING)

**PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
FEDERAL SITE REMEDIATION SECTION
SITE ASSESSMENT UNIT**

MARCH 30, 2004

PRE-CERCLIS SCREENING ASSESSMENT
IMPERIAL SMELTING CORPORATION

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1.0 INTRODUCTION

INTRODUCTION

On October 18, 2003, the Illinois Environmental Protection Agency's (IEPA) Office of Site Evaluation was tasked by the U.S. Environmental Protection Agency (USEPA) Region V to conduct a Pre-CERCLIS Screening Assessment (PCS) of the Imperial Smelting Corporation facility located in Chicago, Illinois. The PCS was performed under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) commonly known as Superfund.

The Pre-CERCLIS Screening Assessment was designed to tentatively identify potential sources of contamination, and if present, determine if they pose the potential to adversely impact nearby residents or the surrounding environment. If during the course of this investigation a determination is made that the site possesses the potential to significantly impact human health and/or the environment, the site will be entered into EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and progress through the Superfund process. The PCS evaluation will also collect enough data to complete the Pre-CERCLIS Screening Assessment Checklist Form (Attachment A, under separate cover of PREscore). IEPA's OSE conducted the Pre-CERCLIS investigation of the Imperial Smelting location as a result of a request by USEPA Region V to further investigate this site.

2.0 SITE BACKGROUND

2.1 SITE DESCRIPTION

On February 25, 2004 personnel from the Illinois Environmental Protection Agency's (IEPA) Office of Site Evaluation (OSE) conducted a Pre-CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Inventory System List) Screening Assessment reconnaissance and evaluation of the Imperial Smelting Corporation facility located in Chicago, Illinois. Imperial Smelting Corporation is an inactive, metal producing operation formerly located at 4442 Fillmore Street, Chicago, Illinois, West Chicago Township, Cook County (see Figures 1 & 2). The former Imperial Smelting facility is located on the central-west side of Chicago, two blocks north of Roosevelt Road and one block west of Kostner Ave. on Fillmore St. The structure once known as Imperial Smelting is now one large structure situated on the entire north side of the 4400 block of Fillmore St. Various pedestrian entrances and overhead garage-type doorways are present along Fillmore. No address of 4442 Fillmore is present. From what can be ascertained from information on the Sanborn Maps the Imperial Smelting building and property occupied a rectangular shaped property approximately 8,000 square feet in size.

The company is situated in an urban setting within the City of Chicago. Bordering what formerly was the Imperial Smelting building and property on the north is the Wisconsin Central Railroad tracks, beyond which are industrial facilities and warehouses; on the south is Fillmore St., beyond which are industrial facilities and warehouses; on the east is the old Illinois Paint Co. of Sears Roebuck & Co., and to the west is an open lot, beyond which are industrial facilities and warehouses (Figure 3).

The former site of Imperial Smelting, which consisted of a brick 2 story building with a concrete floor, cannot be seen currently as it has been incorporated into the former Illinois Paint/Sears structure. The terrain at the former facility and the immediate surrounding area is flat with no trees, grass or bushes. Gravel and dirt are present at the rear of the building adjacent to the railroad tracks. The majority of the area, other than described above, is covered by concrete sidewalk and concrete or asphalt street.

The former Imperial Smelting facility property is situated in an area of mixed light industrial and residential neighborhoods. The closest residential dwelling is located one-half block south of the former facility with additional dwellings at various distances in all directions. No residential dwellings, schools or daycare facilities are within two hundred feet of the former facility. Within four miles of the property, land use consists primarily of residential and manufacturing/light industrial with some commercial/retail also scattered throughout. Twenty elementary schools are within one mile (5280 feet) of the property. Two are within one-half mile (2640 feet), northeast of the property. There are an estimate 1000 persons living within one-quarter mile of this site. 20,000 persons are estimated to live within one mile of the site, and 676,000 are estimated to live within four miles.

There is no access to this property except walking on the sidewalk along the south side of the building and on a narrow gravel area adjacent to the railroad tracks on the north side of the building. There were no signs of staining or leakage from the building or on the ground. There is no access into the current building other than authorized personnel.

The surface water runoff route for this property consists of runoff flowing into city streets where curb storm drains direct flow into the City of Chicago sewer system. No runoff route was

noted along the back of the facility adjacent to the railroad tracks. It appears that moisture percolates into the ground.

2.2 SITE HISTORY

During this investigation it was found that there is very limited information available regarding the history of the Imperial Smelting Corporation facility.

An investigation conducted at the State of Illinois Archives revealed no information on the company. There was no information on incorporation or dissolution of the company. A search of Sanborn Fire Insurance Maps (Appendix A), located at the Illinois State Library, indicated that, as of 1909, there were no structures located on the north side of Fillmore (4400 block) between S. 44th Ave. (now Kostner) and S. 45th Ave. (now S. Kilbourn). No information has been found indicating when the Imperial Smelting building was constructed or when the company began operating. A 1951, updated, Sanborn Map indicated that the Imperial Smelting building (although no company name was found to coincide with the subject building) was a stand alone structure until approximately 1950. The interior of the structure consisted of the smelting works, a wood box factory room, a wood box and bottle storage room, and a feather processing area,. At some point in 1950 the Illinois Paint Company of Sears Roebuck & Company's, Paint Building, originally built in 1920 at the east end of Fillmore, was expanded toward the west (during 1950/1951) and joined the building housing Imperial Smelting. The 1951 Sanborn Map indicates that the Imperial Smelting operation may have been purchased by the paint company and its building and operations incorporated into the operations of the Illinois Paint Co. of Sears. The Sanborn Maps indicates that there were approximately sixteen smelting

furnaces within the Imperial structure. According to a Metal Industry Directory; the Standard Metal Directory 1940 Edition, the company was classified as a metal smelter, refiner and a scrap iron and metal dealer. Products listed were babbitt, solder, type and die cast metal. To produce these metals the process consumed a variety of scrap; all grades of white metals, bell metal, die cast scrap, monel metal clippings, castings and turnings, old nickel anodes, nickel clippings, and wire. No known metal fabrication processes were carried out at this facility. In the 1963 – 1964 Edition of the directory Imperial Smelting was not listed at 4442 Fillmore St., but relocated to 1031 E. 103rd St., Chicago. The Corporation operations remained the same.

The Cook County Recorder of Deeds had ownership history for this facility over the last fourteen years. In May 1990, G.F. Furniture Systems Inc. was listed as the owner of the building. In January 1994 Sanwa Business Credit Corporation bought the building. Currently (March 2004) OSI – Signatures in Fine Wood occupies the building. At this writing the Cook County Assessors office indicates that all property taxes have been paid.

3.0 FIELD INVESTIGATION ACTIVITIES

3.1 FIELD INSPECTION

A CERCLA pre-remedial site reconnaissance was conducted on February 25, 2004, by personnel of the Office of Site Evaluation (OSE) of the Illinois Environmental Protection Agency (IEPA). A site reconnaissance of the Imperial Smelting Corporation property and the surrounding area was conducted to determine the physical property boundaries and survey the properties at its perimeters. The survey of the surrounding area was done to determine land usage of the neighboring properties as well as any pathway or receptors that potentially may be affected by the site. As mentioned, the site was observed to be flat, with no vegetation present. Concrete sidewalks and streets are present on the south side of the building and gravel is present on the north. The former Imperial Smelting building could not be observed, as the present building, covering the entire north side of the 4400 block of Fillmore, encompasses it. The current building stands six stories tall at the east end, the corner of Kostner and Fillmore. Approximately two hundred feet west of the corner the building is constructed to two stories which it remains to its west end, the corner of S. Kilbourn and Fillmore. The building and grounds are not accessible to the public. As mentioned previously, there were no signs of staining or leakage from the building or on the ground and no general refuse was observed. The entire building seemed to be in use and appeared to be in good repair.

3.2 X-RAY FLUORESCENCE (XRF)

One of the purposes of the site reconnaissance and investigation, conducted by personnel of the IEPA Office of Site Evaluation on February 25, 2004, was to collect field based soil data

with a Niton 700 Series XRF unit. A variety of inorganic analytes can be detected through use of the XRF. The analyte of concern at this location was lead due to the former operation of the lead smelter. However, as has been described, no soil was available for sampling nor was the building itself accessible for sampling.

4.0 INITIAL PATHWAY ANALYSIS

4.1 GROUNDWATER

The soil survey for Cook County defines the entire area of and around the property as urban land. Urban land consists of built up and/or filled areas and deep, level, poorly drained soils that have a silty, loamy, clayey subsoil. In this instance the property being evaluated is covered by the site building, gravel at the rear adjacent to the railroad tracks, and concrete sidewalk and roadway. The site lies within an area underlain by Pleistocene Age glacial/lacustrine deposits. The natural surficial geology beneath the site is composed of quiet water and near shore sediments deposited by former Lake Chicago. These sediments are dominated by well bedded silt and some clay. These sediments are identified as the Carmi Member of the Equality Formation. The Carmi Member is associated with the Wisconsin Stage of glaciation. Beneath the Carmi Member (clay with silt and sand lenses) is the Wadsworth Member, a clayey glacial till which extends to the bedrock surface. The bedrock in the vicinity of the site is a Niagaran group dolomitic limestone of Silurian Age. The top of the bedrock is estimated to be present at a depth of approximately 65 feet below ground surface.

Beneath the surface soil is natural, soft to very stiff clay and loose to medium dense silt and clayey silt with some intermittent stringers of fine to coarse sand and some fine gravel, which represent lake bottom deposits. These deposits are approximately 15 to 30 feet thick in the area near the property. Beneath the Carmi Member is the Wadsworth Member consisting of very stiff to hard silty or sandy clay and hardpan soils. These clay strata are typically interbedded with silt and sand layers or lenses. The Wadsworth Till is approximately 45 to 55 feet thick beneath

the property. Groundwater occurrences within the Pleistocene deposits (Wadsworth Till) of the area are typically observed within localized sand and/or silt lenses. Due to poor yield and quality, the water is generally not considered for potable use. There can be adequate groundwater reserves within the Silurian (System) dolomite and it is considered to be the primary aquifer in the region, however, it is not widely used in the immediate area as drinking water is provided by the City of Chicago with water drawn from Lake Michigan. The Illinois State Geological Survey (ISGS) and the Illinois State Water Survey (ISWS), do however, indicate that approximately 10 private drinking water wells exist within a four mile radius around the Imperial property. ISGS and ISWS information indicates that static water levels in wells screened in the Wadsworth Till within four miles of the property range from 35 to 65 feet below ground surface in wells 90 – 100 feet deep. Some wells within four miles of the property are screened in or draw water from immediately beneath the Wadsworth Till in the upper portions of the Niagaran Series formation (dolomite) of the Silurian System. These bedrock wells have been recorded between 110 feet to 250 feet in depth. Groundwater flow in this particular portion of the bedrock aquifer trends north-northeast following the north-northeast dip of the beds of dolomite of approximately 25 feet per mile as indicated by the Illinois State Geological Survey Bulletin 73 Plate 1.

After reviewing the geology, groundwater usage of the area, and the Groundwater Quality Standards (35 IL Adm. Code Part 620), the groundwater beneath this property can be classified as Class II groundwater. The determination was based on the following: no potable water supply wells are within the minimum setback zone, no sandstone greater than 10 feet thick or fractured carbonate greater than 15 feet thick exist, and 99% of all water within the Chicago distribution

area is supplied by the City of Chicago with water from Lake Michigan.

According to the United States Geological Survey Source Water Assessment Program there are approximately 100 non-community and industrial groundwater wells and/or distribution systems located within a four mile radius of the Imperial Smelting Corporation. Both, the sand and gravel deposits in the unconsolidated glacial drift above bedrock and the Silurian Dolomite aquifers are utilized for water supplies in this portion of Cook County. Illinois State Water Survey (ISWS) records indicate that there are no public drinking water systems within the four mile radius of the Imperial Smelting facility. Two of the closest private wells to the site use the Silurian bedrock aquifer. According to ISWS well logs, one is approximately 13,200 feet (2 ½ miles) east of the facility and is 1615 feet in depth. The other is located approximately 13,200 feet (2 ½ miles) west of the facility and is 140 feet deep. Potential for contamination to these wells associated with this facility is remote due to the site characteristics, geology, and distance from the facility.

Based on information obtained and presented above, the Glacial Drift and Silurian Dolomite aquifers are considered to be interconnected and the aquifers of concern in the area surrounding the site. Since the Maquoketa Group is a confining layer beneath the Silurian Dolomite the Cambrian-Ordovician aquifer would not be considered a concern for potential contaminant intrusion. Groundwater in the aquifers of concern has been encountered at depths between approximately 50 to 90 feet. Groundwater flow direction in the glacial drift aquifer has not been determined at this time.

4.2 SURFACE WATER

The surface water runoff from this property accumulates from building roof drains and excess moisture runoff from concrete sidewalks and roadways. The surface water runoff route is via city streets where street curb and gutter systems direct flow into storm drains and into the City of Chicago sewer system. According to USGS topographic maps there are no perennial or intermittent waterways within 3.0 miles of the Imperial property. It does not appear that a release to the surface water pathway is a concern associated with this site. A review of a Federal Emergency Management Agency map for incorporated areas of Cook County indicates that the facility is located outside of the 100 year floodplain.

4.3 SOIL EXPOSURE

Based upon information gathered during the 2004 Pre-CERCLIS Screening Assessment the soil exposure pathway associated with the Imperial Smelting facility does not appear to be a primary concern. The facility is located in an urban setting of mixed light industrial and residential properties. The site itself is covered with the facility building, and concrete sidewalks and roadways. Residences which are within one-quarter mile (approximately 10 to the south and 60 to the north) of the facility may have inorganic contaminants, such as lead, in yard soil, however this is unknown at this time. However, with the numerous other industrial entities in the surrounding area singling out this particular facility would be unrealistic.

4.4 AIR ROUTE

During the February 25, 2004 reconnaissance and investigation a Foxboro Toxic Vapor Analyzer (TVA) was utilized to screen ambient air around the facility, air in the breathing zone, and air around the building. All readings registered at background levels of approximately 2.5 units. There are no records, reports or complaints on file of air releases from the facility or odors emanating from the site. As mentioned previously, the facility has various types of site cover that prevents airborne migration of windblown particulates. Due to the site characteristics the potential for contaminated airborne particulates to be released via the air pathway is not a concern.

5.0 REFERENCES

Bureau of the Census, County and City Data Book, 1990 U.S. Census Data.

Cook County Assessors Office, 118 N. Clark St., Chicago, Illinois

Cook County Recorder of Deeds, 118 N. Clark St., Room 120, Chicago, Illinois

Rockford Map,Publishers, 1996, Land Atlas and Plat Book, Cook County, Illinois.

State of Illinois, Department of Energy and Natural Resources, 1963, Photorevised 1972 and 1980, Englewood, Illinois, 7.5 Minute Topographic Map.

State of Illinois, Department of Energy and Natural Resources, 1963, Photorevised 1972, Chicago Loop, Illinois, 7.5 Minute Topographic Map.

State of Illinois, Department of Energy and Natural Resources, 1963, Photorevised 1972, Photoinspected 1978, River Forest, Illinois, 7.5 Minute Topographic Map.

State of Illinois, Department of Energy and Natural Resources, 1963, Photorevised 1972 and 1980, Berwyn, Illinois, 7.5 Minute Topographic Map.

FIGURES



Imperial Smelting Corporation

Site Location

Figure 1

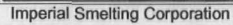


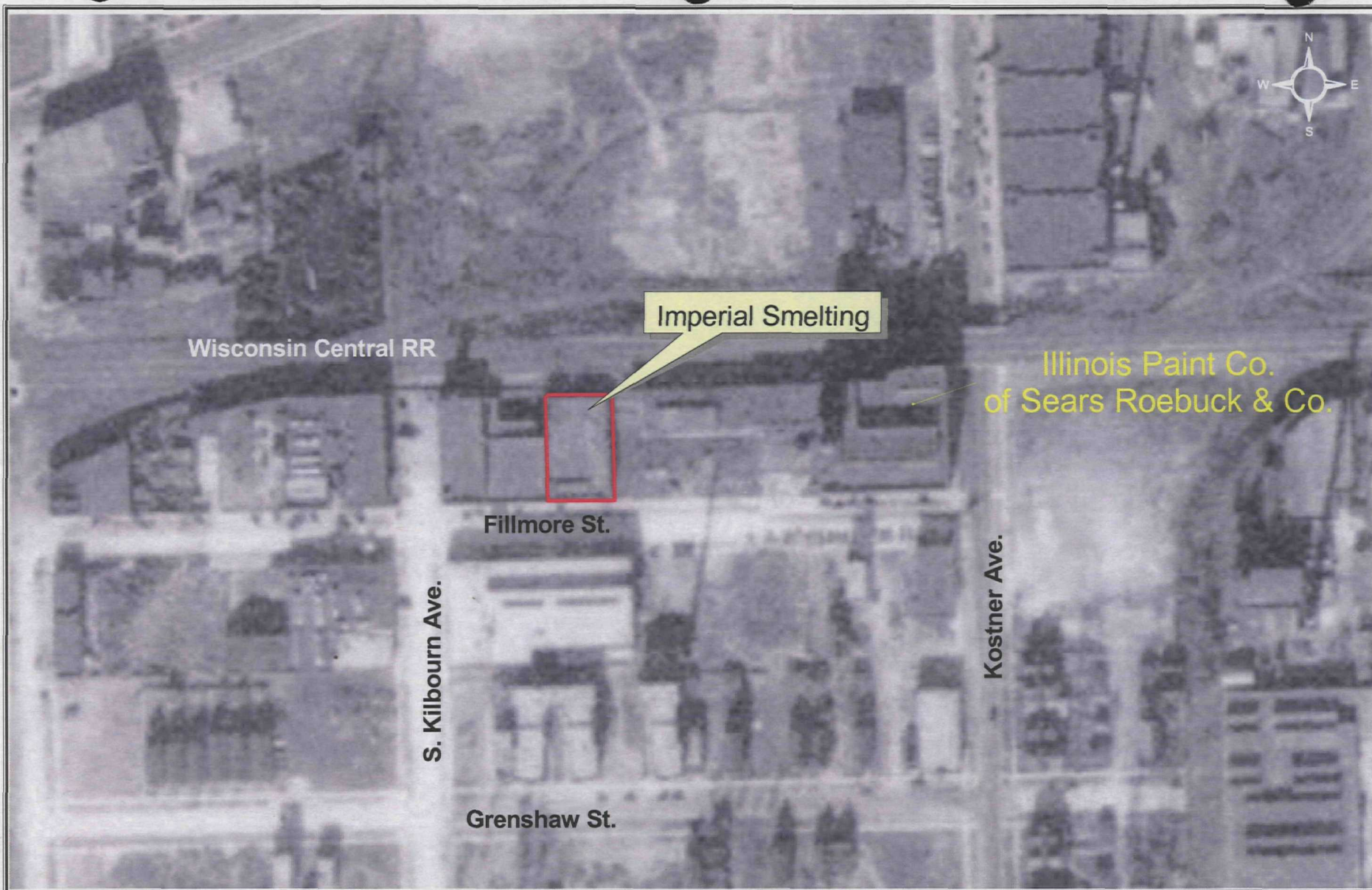
Figure 2



Imperial Smelting Corporation

SITE AREA MAP

Figure 3



1939/1940

Imperial Smelting Corporation

Aerial Photograph

Figure 4

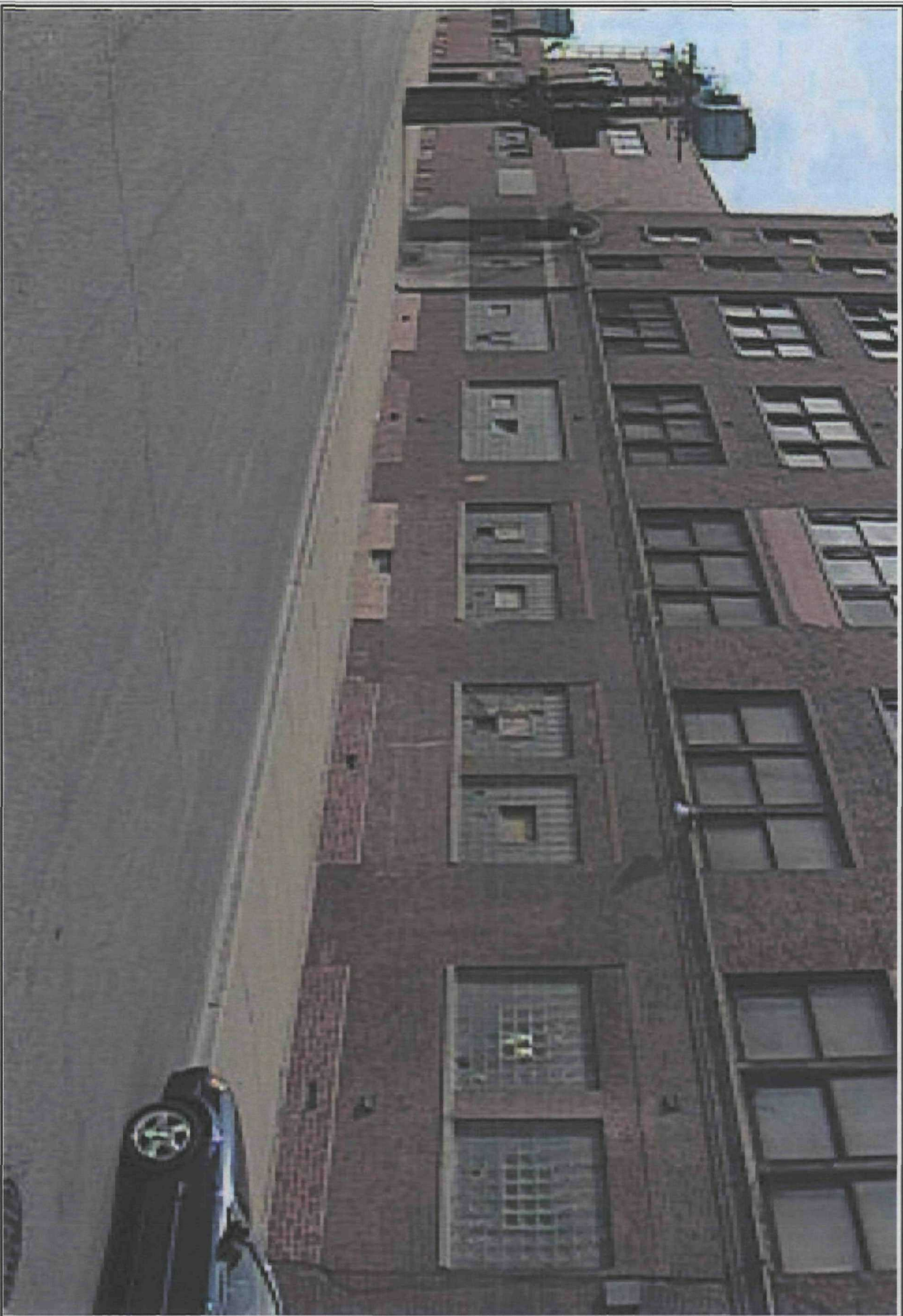


Imperial Smelting Corporation

Imperial Smelting Corporation

Figure 5

PHOTOGRAPHS



Imperial Smelting Corporation

PHOTOGRAPH OF 4400 FILLMORE
(the old ILLINOIS PAINT CO. BUILDING)

Photo taken toward the NW



Imperial Smelting Corporation

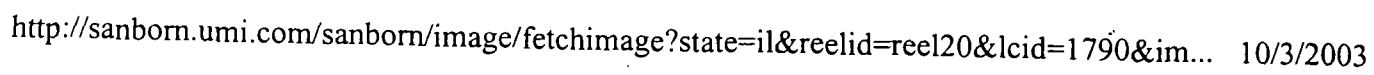
PHOTOGRAPH OF 4458 FILLMORE
FORMER IMPERIAL SMELTING ON FAR RIGHT

Photo taken toward the NE

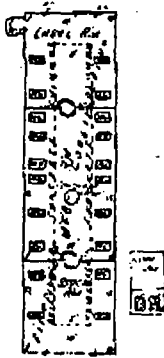
APPENDIX A

Sanborn Fire Insurance Maps
1909, 1951

1909
SANBORN FIRE INSURANCE MAPS



ADAMS-ELTING CO
 WAREHOUSE REMOVED
 ROAD FINISHING FACTORY
 ROAD STRIP CONSTRUCTION EQUIPMENT
 ROAD STRIP CONSTRUCTION EQUIPMENT
 ROAD STRIP CONSTRUCTION EQUIPMENT



50

FILLMORE ST.

AV.

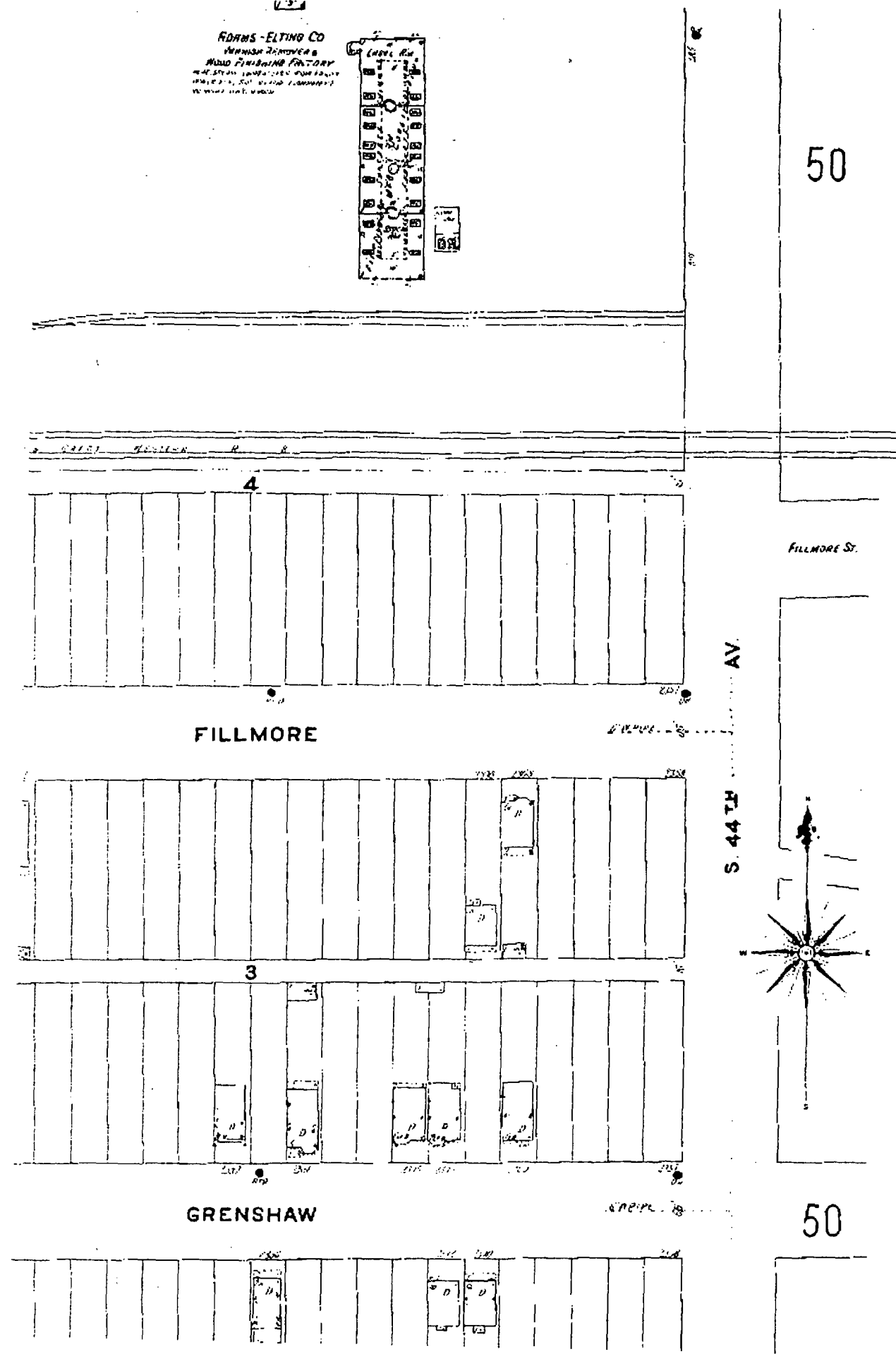
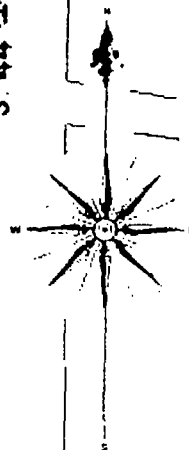
S. 44TH

FILLMORE

3

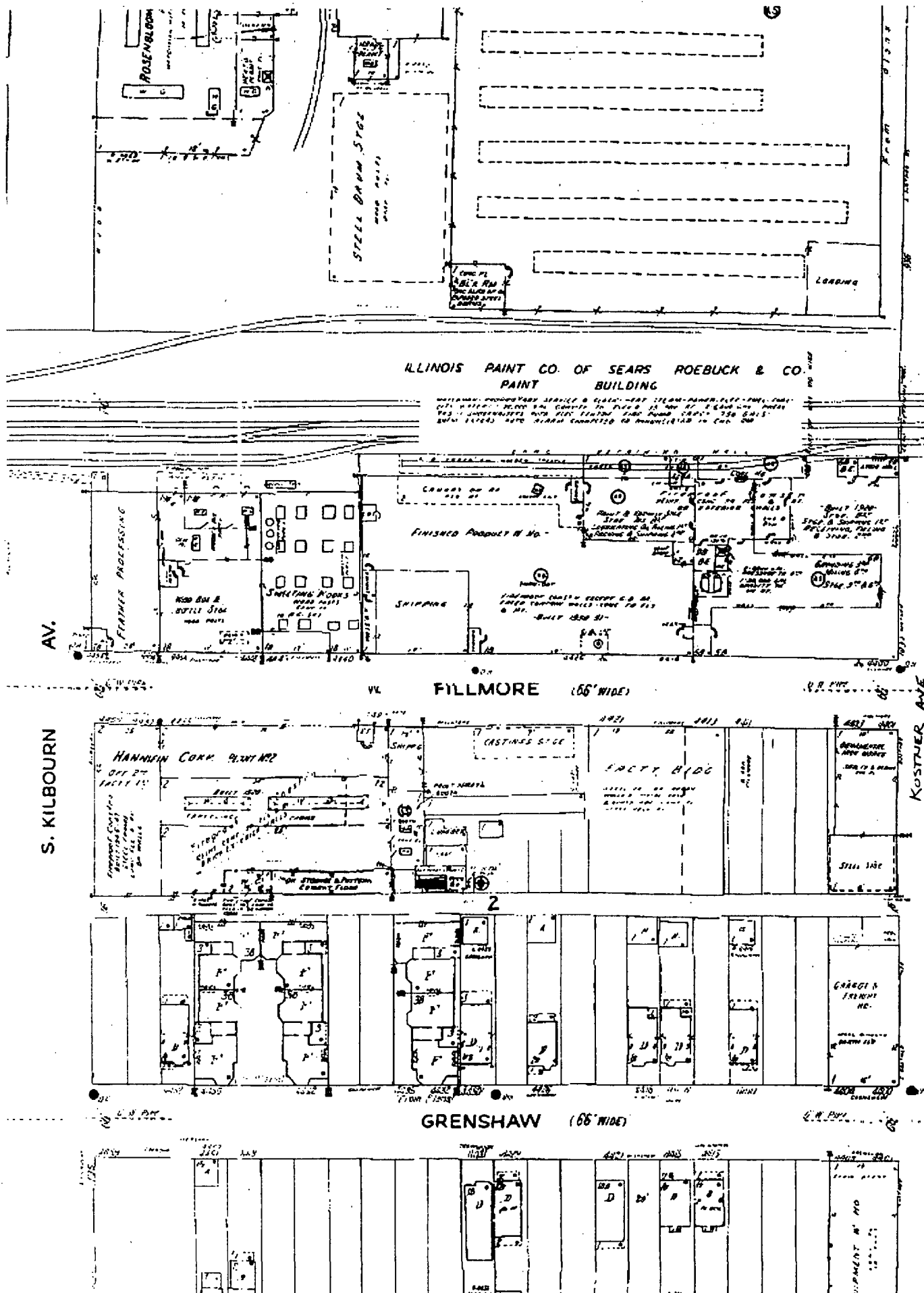
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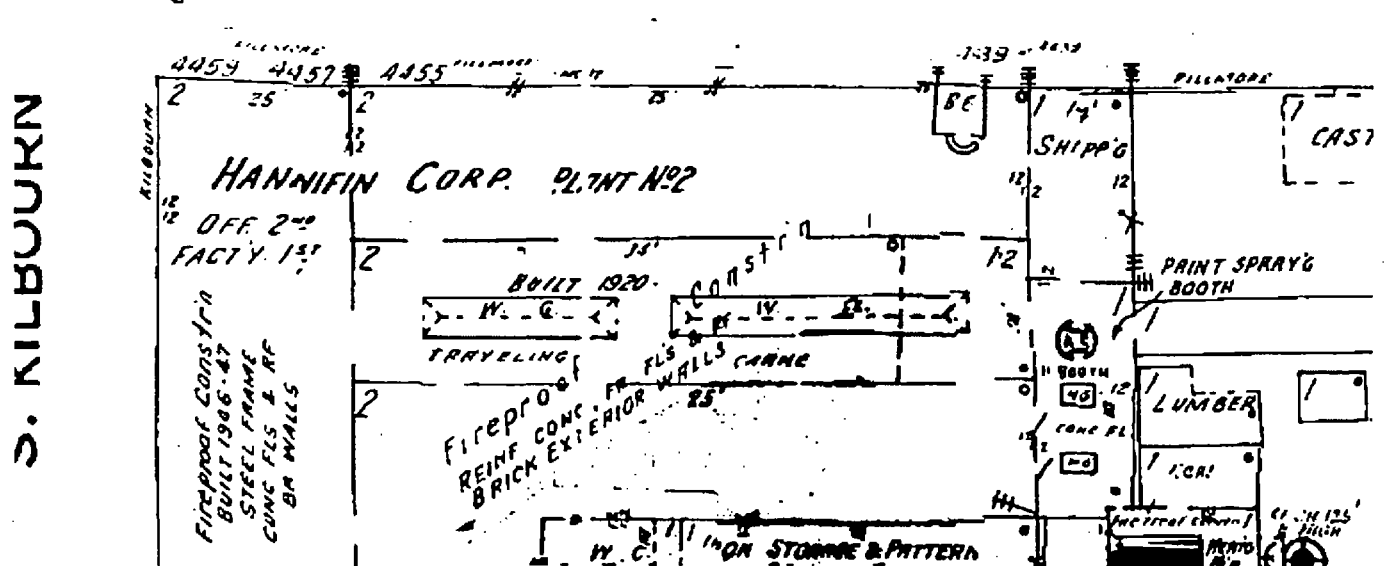
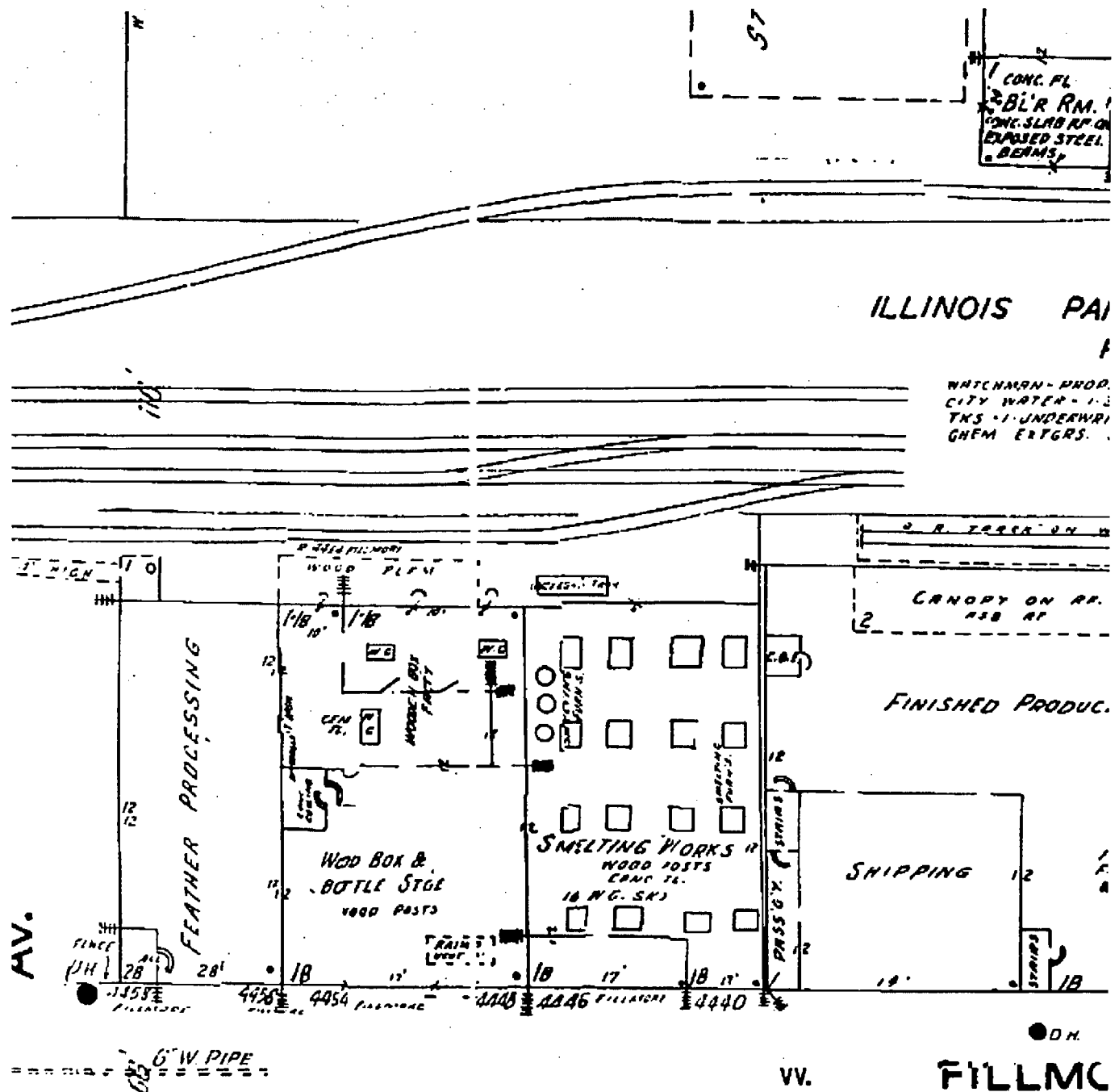
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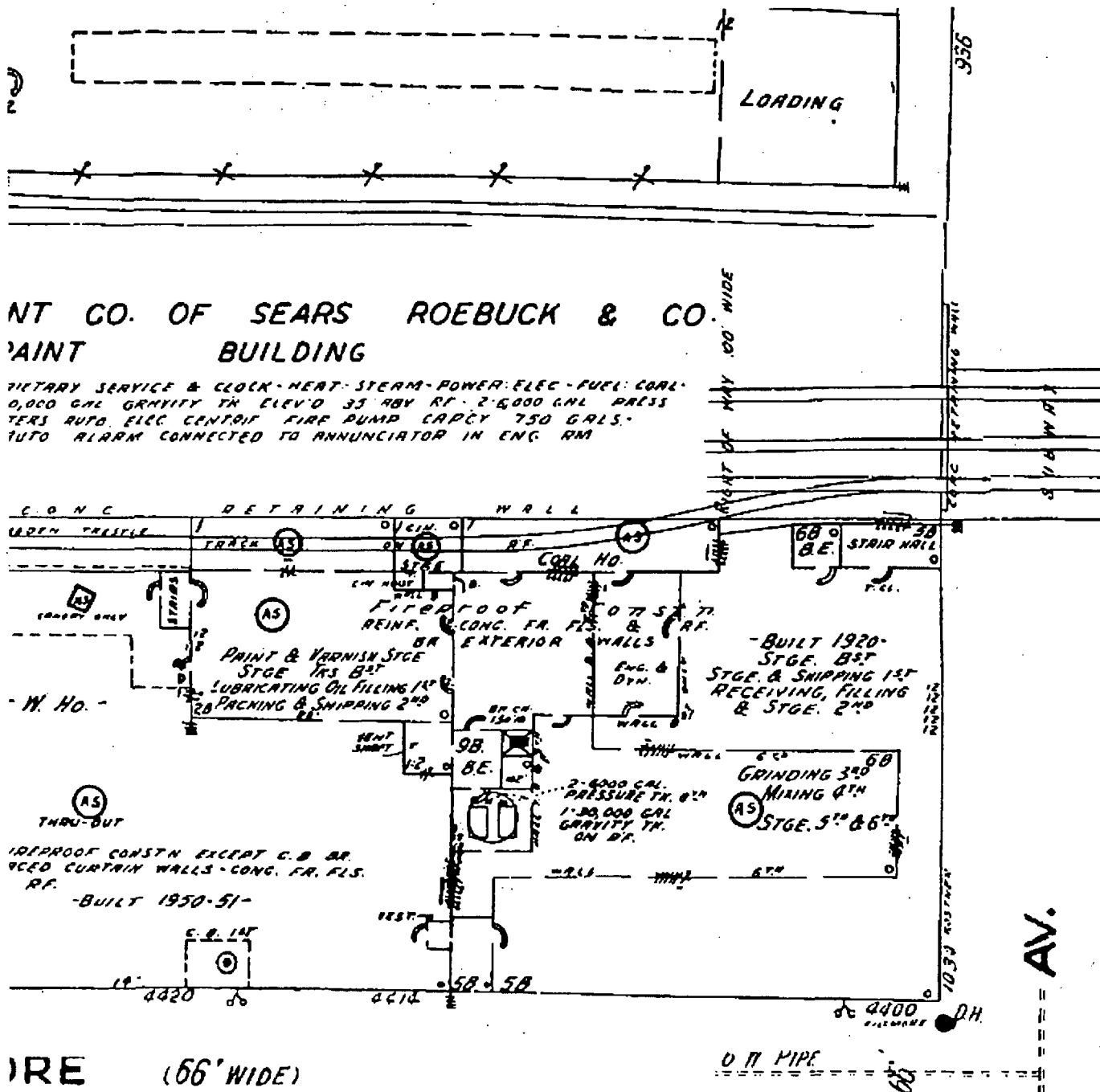




1951
SANBORN FIRE INSURANCE MAPS







S. KOSTNER